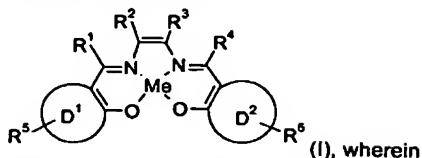


## Claims

1. A metal complex of the following formula



- 5 Me is a transition metal of Sub-Group 7, 8, 9, 10, 11 or 12, preferably 9, 10 or 11,  
 D<sup>1</sup> and D<sup>2</sup> are each independently of the other a carbocyclic or heterocyclic ring or ring  
 system, which may be unsubstituted or substituted by one or more groups R<sup>5</sup> and R<sup>6</sup>,  
 R<sup>1</sup> and R<sup>4</sup> are each independently of the other a hydrogen atom, a perfluoroalkyl  
 radical, an unsubstituted or substituted alkyl radical, an aryl radical or an aralkyl radical,  
 10 R<sup>2</sup> and R<sup>3</sup> are a cyano group, or  
 R<sup>2</sup> and R<sup>3</sup> together form a five to seven membered heterocyclic ring, or  
 R<sup>2</sup> and R<sup>3</sup> together form an aromatic carbocyclic ring, which is substituted by at least  
 one electron accepting substituent, or which is substituted by at least one electron  
 donating substituent,  
 15 R<sup>5</sup> and R<sup>6</sup> being a halogen atom, such as fluorine, chlorine or bromine, a group  
 -NR<sup>8</sup>R<sup>9</sup>, a group -SO<sub>2</sub>NR<sup>8</sup>R<sup>9</sup>, wherein  
 R<sup>8</sup> and R<sup>9</sup> are each independently of the other a hydrogen atom, an alkyl group, a  
 C<sub>1</sub>-C<sub>24</sub>alkylcarbonyl group, an alkyl group which is substituted by E and/or  
 interrupted by D, a C<sub>6-24</sub>aryl-carbonyl radical or C<sub>7-24</sub>aralkyl-carbonyl radical, an aryl  
 20 group, or an aralkyl group, or R<sup>8</sup> and R<sup>9</sup> together form a five- to seven-membered  
 heterocyclic ring, which optionally can be interrupted by D,  
 a nitro group, a cyano group, a hydroxy group, an alkyl group, an alkyl group which is  
 substituted by E and/or interrupted by D, an alkoxy group which is substituted by E  
 and/or interrupted by D, an aryloxy group, an aralkyloxy group, an alkylthio group which  
 25 is substituted by E and/or interrupted by D, an arylthio group, an aralkylthio group, an  
 acyl radical, a phenyl group, an ester group, such as a phosphonic acid, phosphoric  
 acid or carboxylic acid ester group, a carboxamide group, a sulfamide group, an  
 ammonium group, a carboxylic acid, sulfonic acid, phosphonic acid or phosphoric acid  
 group or a salt thereof,  
 30 wherein at least one of the substituents R<sup>5</sup> and at least one of the substituents R<sup>6</sup> is an  
 electron donating group, if R<sup>2</sup> and R<sup>3</sup> together form an aromatic carbocyclic ring, which  
 is substituted by at least one electron accepting substituent, or at least one of the  
 substituents R<sup>5</sup> and at least one of the substituents R<sup>6</sup> is an electron accepting group, if

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$R^2$  and  $R^3$  together form an aromatic carbocyclic ring, which is substituted by at least one electron donating substituent, wherein

D is  $-\text{CO}-$ ;  $-\text{S}-$ ;  $-\text{SO}-$ ;  $-\text{SO}_2-$ ;  $-\text{O}-$ ;  $-\text{NR}^{10}$ ; and

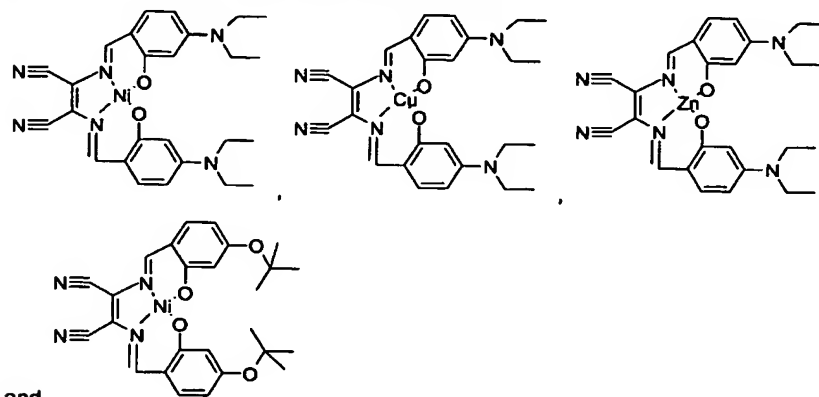
E is  $-\text{OR}^{11}$ ;  $-\text{SR}^{11}$ ;  $-\text{NR}^{12}\text{R}^{13}$ ;  $-\text{COR}^{14}$ ;  $-\text{COOR}^{15}$ ;  $-\text{CONR}^{12}\text{R}^{13}$ ;  $-\text{CN}$ ; or halogen; wherein

5  $R^{10}$ ,  $R^{12}$  and  $R^{13}$  are each independently of the other a hydrogen atom, an alkyl group, an aryl group, or an aralkyl group,

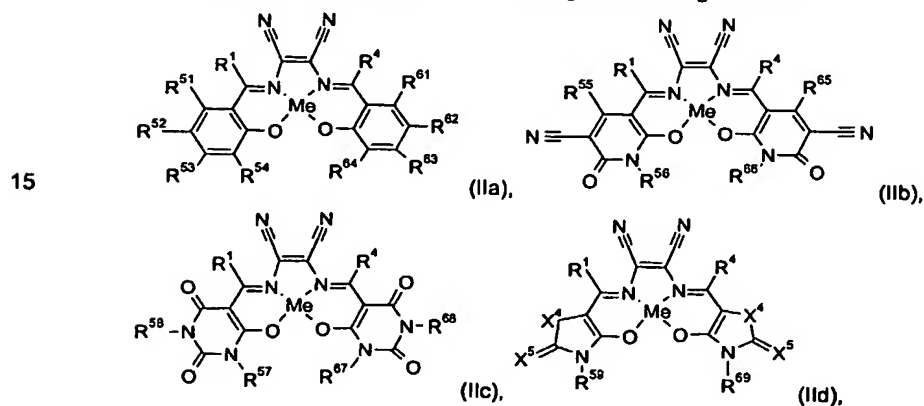
$R^{11}$  is a hydrogen atom, an alkyl group, an aryl group, or an aralkyl group,

$R^{14}$  is an alkyl group, an aryl group, or an aralkyl group, and

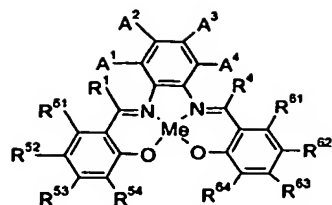
10  $R^{15}$  is a hydrogen atom, an alkyl group, an aryl group, or an aralkyl group, with the proviso that the following compounds are excluded:



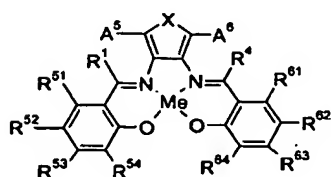
2. A metal complex according to claim 1, having the following formula



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(III), or



(IV), wherein

Me is  $\text{Co}^{3+}$ , especially  $\text{Cu}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Pd}^{2+}$ ,  $\text{Pt}^{2+}$ ,  $\text{Co}^{2+}$ , or  $\text{Zn}^{2+}$ ,

X is  $>\text{O}$ ,  $>\text{S}$ ,  $>\text{S}=\text{O}$ , or  $>\text{SO}_2$ ,

5  $\text{A}^1$ ,  $\text{A}^4$ ,  $\text{A}^5$  and  $\text{A}^6$  are each independently of the other a hydrogen atom, an alkoxy radical, an alkyl radical, an alkyl radical which is interrupted one or more times by  $-\text{O}-$  or by  $-\text{S}-$ ,

at least one of  $\text{A}^2$  and  $\text{A}^3$ , preferably  $\text{A}^2$  and  $\text{A}^3$ , are an electron accepting substituent, especially  $-\text{NO}_2$ , a halogen atom, especially a chlorine or a bromine atom, a group

10  $-\text{SO}_2-\text{NR}^8\text{R}^9$  and the other is a hydrogen atom,

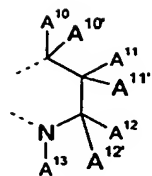
$\text{R}^1$  and  $\text{R}^4$  are defined as in claim 1,

$\text{R}^{51}$ ,  $\text{R}^{52}$ ,  $\text{R}^{54}$ ,  $\text{R}^{61}$ ,  $\text{R}^{62}$  and  $\text{R}^{64}$  are each independently of the other a hydrogen atom, or an  $\text{C}_1$ - $\text{C}_{18}$ alkyl group,

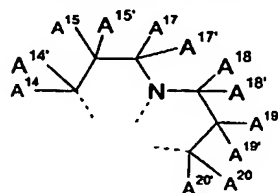
15  $\text{R}^{53}$  and  $\text{R}^{63}$  are each independently of the other a hydroxy group, an  $\text{C}_1$ - $\text{C}_{18}$ alkoxy group, an  $\text{C}_6$ - $\text{C}_{24}$ aryloxy group, an  $\text{C}_7$ - $\text{C}_{24}$ aralkyloxy group, a group  $-\text{NR}^8\text{R}^9$ , or a salt thereof, wherein  $\text{R}^8$  and  $\text{R}^9$  are each independently of the other a hydrogen atom, an  $\text{C}_1$ - $\text{C}_{18}$ alkyl group, an  $\text{C}_1$ - $\text{C}_{18}$ alkyl group which is substituted by E and/or interrupted by D, an  $\text{C}_6$ - $\text{C}_{24}$ aryl group, or an  $\text{C}_7$ - $\text{C}_{24}$ aralkyl group, wherein D and E are as defined in claim 1, or

20  $\text{R}^{53}$  and  $\text{R}^{52}$ ,  $\text{R}^{53}$  and  $\text{R}^{54}$ ,  $\text{R}^{63}$  and  $\text{R}^{62}$ , and/or  $\text{R}^{63}$  and  $\text{R}^{64}$  are each independently of the other

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, wherein  $A^{10}$ ,  $A^{10'}$ ,  $A^{11}$ ,  $A^{11'}$ ,  $A^{12}$  and  $A^{12'}$  are each independently of the other a hydrogen atom, or a  $C_1$ - $C_8$ alkyl group, or  $A^{10'}$  and  $A^{11'}$  together, form a double bond, and  $A^{13}$  is a hydrogen atom or a  $C_1$ - $C_8$ alkyl group, or  $R^{53}$  and  $R^{52}$  and  $R^{54}$ , and/or  $R^{63}$  and  $R^{62}$  and  $R^{64}$  are



wherein  $A^{14}$ ,  $A^{14'}$ ,  $A^{15}$ ,  $A^{15'}$ ,  $A^{17}$ ,  $A^{17'}$ ,  $A^{18}$ ,  $A^{18'}$ ,  $A^{19}$ ,  $A^{19'}$ ,  $A^{20}$  and  $A^{20'}$  are each independently of the other a hydrogen atom, or a  $C_1$ - $C_8$ alkyl group,

$R^{55}$  and  $R^{65}$  are each independently of the other a hydrogen atom, or a  $C_1$ - $C_{18}$ alkyl group,

$R^{56}$ ,  $R^{57}$ ,  $R^{58}$ ,  $R^{59}$ ,  $R^{66}$ ,  $R^{67}$ ,  $R^{68}$  and  $R^{69}$  are each independently of the other a hydrogen atom, a  $C_1$ - $C_{18}$ alkyl group, or a  $C_1$ - $C_{18}$ alkyl group, which is interrupted by one or more oxygen atoms, and

$X^4$  and  $X^5$  are each independently of the other a sulfur, or oxygen atom.

3. A metal complex according to claim 2 having the formula II, III, or IV, wherein

$Me$  is  $Co^{3+}$ , especially  $Cu^{2+}$ ,  $Ni^{2+}$ ,  $Pd^{2+}$ ,  $Pt^{2+}$ ,  $Co^{2+}$ , or  $Zn^{2+}$ ,

$X$  is  $>O$ ,  $>S$ ,  $>S=O$ , or  $>SO_2$ ,

$A^1$ ,  $A^4$ ,  $A^5$  and  $A^6$  are a hydrogen atom,

$A^2$  and  $A^3$  are  $-NO_2$ ,

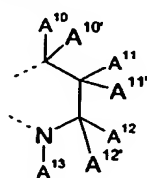
$R^1$  and  $R^4$  are each independently of the other a hydrogen atom, a perfluoro $C_1$ - $C_8$ alkyl radical or a  $C_1$ - $C_8$ alkyl radical,

$R^{51}$ ,  $R^{52}$ ,  $R^{54}$ ,  $R^{61}$ ,  $R^{62}$  and  $R^{64}$  are a hydrogen atom, or

$R^{51}$  and  $R^{52}$  together, and/or  $R^{61}$  and  $R^{62}$  together, form an unsubstituted or substituted phenyl ring,

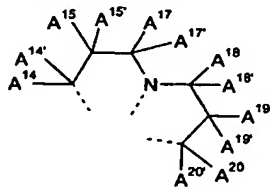
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- 5  $R^{53}$  and  $R^{53}$  are each independently of the other a hydroxy group, an  $C_1$ - $C_{18}$ alkoxy group, a group  $-NR^8R^9$ , wherein  $R^8$  and  $R^9$  are each independently of the other a hydrogen atom, an  $C_1$ - $C_{18}$ alkyl group, a group  $-(CH_2)_n-OH$ , a group  $-(CH_2CH_2O)_n-R^{16}$ , where  $n$  is a number from the range 1-9 and  $R^{16}$  is H or  $C_1$ - $C_{10}$ alkyl, or a salt thereof, or  $R^{53}$  and  $R^{52}$ ,  $R^{53}$  and  $R^{54}$ ,  $R^{53}$  and  $R^{62}$ , and/or  $R^{53}$  and  $R^{64}$  are each independently of the other



, wherein  $A^{10}$ ,  $A^{10'}$ ,  $A^{11}$ ,  $A^{11'}$ ,  $A^{12}$  and  $A^{12'}$  are each independently of the other a hydrogen atom, or a  $C_1$ - $C_8$ alkyl group, or  $A^{10'}$  and  $A^{11'}$  together, form a double bond,

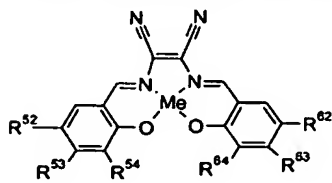
- 10  $A^{13}$  is a hydrogen atom or a  $C_1$ - $C_8$ alkyl group, or  $R^{53}$  and  $R^{52}$  and  $R^{54}$ , and/or  $R^{53}$  and  $R^{62}$  and  $R^{64}$  are



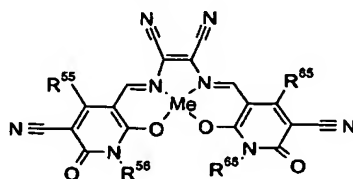
wherein  $A^{14}$ ,  $A^{14'}$ ,  $A^{15}$ ,  $A^{15'}$ ,  $A^{17}$ ,  $A^{17'}$ ,  $A^{18}$ ,  $A^{18'}$ ,  $A^{19}$ ,  $A^{19'}$ ,  $A^{20}$  and  $A^{20'}$  are each independently of the other a hydrogen atom, or a  $C_1$ - $C_8$ alkyl group.

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4. A metal complex according to claim 3, having the formula

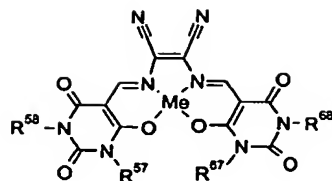


(IIa'),

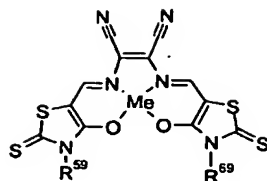


(IIb'),

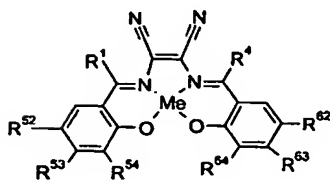
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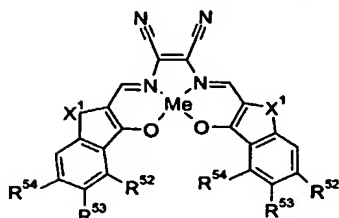
(IIC'),



(IID'),



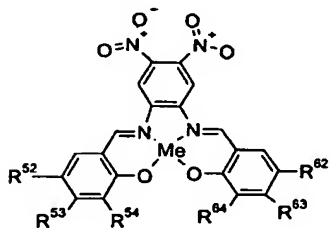
(IIe),



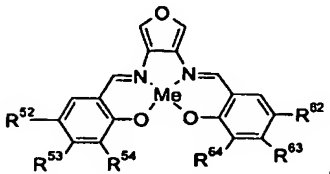
(IIIf), wherein

$X^1$  is a group  $-O-$ ,  $-S-$ , or  $-NR^{200}$ , wherein  $R^{200}$  is a hydrogen atom, or an alkyl group,  $R^{56}$  and  $R^{65}$  are each independently of the other a hydrogen atom, or a  $C_1$ - $C_{18}$ alkyl group,

$R^{56}$ ,  $R^{57}$ ,  $R^{58}$ ,  $R^{59}$ ,  $R^{66}$ ,  $R^{67}$ ,  $R^{68}$  and  $R^{69}$  are each independently of the other a hydrogen atom, a  $C_1$ - $C_{18}$ alkyl group, or a  $C_1$ - $C_{18}$ alkyl group, which is interrupted by one or more oxygen atoms,

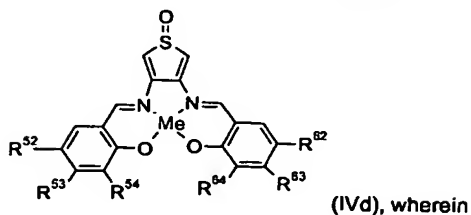
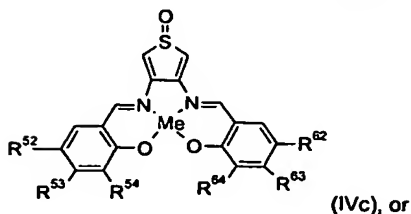
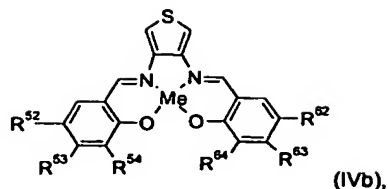


(IIIa), or



(IVa),

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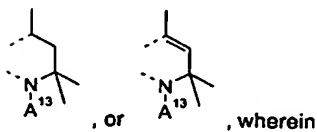


Me is  $\text{Co}^{3+}$ , especially  $\text{Cu}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Pd}^{2+}$ ,  $\text{Pt}^{2+}$ ,  $\text{Co}^{2+}$ , or  $\text{Zn}^{2+}$ ,

$\text{R}^1$  is hydrogen and  $\text{R}^4$  is  $\text{C}_1$ - $\text{C}_4$ perfluoroalkyl,

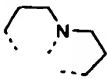
$\text{R}^{52}$ ,  $\text{R}^{54}$ ,  $\text{R}^{62}$  and  $\text{R}^{64}$  are a hydrogen atom, or

$\text{R}^{53}$  and  $\text{R}^{63}$  are each independently of the other a hydroxy group, an  $\text{C}_1$ - $\text{C}_{18}$ alkoxy group, a group  $-\text{NR}^8\text{R}^9$ , wherein  $\text{R}^8$  and  $\text{R}^9$  are each independently of the other a hydrogen atom, an  $\text{C}_1$ - $\text{C}_{18}$ alkyl group, a group  $-(\text{CH}_2)_n\text{-OH}$ , a group  $(\text{CH}_2\text{CH}_2\text{O})_n\text{-R}^{16}$ , where n is a number from the range 1-9 and  $\text{R}^{16}$  is H or  $\text{C}_1$ - $\text{C}_{10}$ alkyl, or a salt thereof, or  $\text{R}^{53}$  and  $\text{R}^{52}$ ,  $\text{R}^{53}$  and  $\text{R}^{54}$ ,  $\text{R}^{63}$  and  $\text{R}^{62}$ , and/or  $\text{R}^{63}$  and  $\text{R}^{64}$  are each independently of the other a group of formula

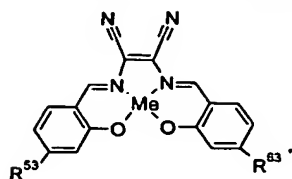


$\text{A}^{13}$  a hydrogen atom or a  $\text{C}_1$ - $\text{C}_8$ alkyl group, or

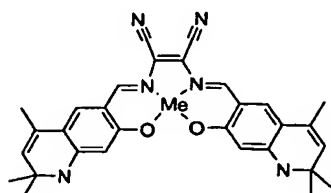
$\text{R}^{53}$  and  $\text{R}^{52}$  and  $\text{R}^{54}$ , and/or  $\text{R}^{63}$  and  $\text{R}^{62}$  and  $\text{R}^{64}$  are a group of formula



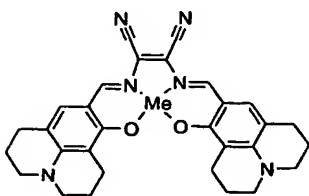
5. A metal complex according to claim 4:



Compound	$R^{53} = R^{63}$	Me
A-1	$-N(CH_2)_2OH$	$Ni^{2+}$
A-2	$-N(CH_2)_2OH$	$Cu^{2+}$
A-3	$-N(CH_2)_2OH$	$Co^{2+}$
A-4	$-OH$	$Ni^{2+}$
A-5	$-OH$	$Cu^{2+}$
A-6	$-OH$	$Co^{2+}$
A-7	$-ONa$	$Ni^{2+}$
A-8	$-ONa$	$Cu^{2+}$
A-9	$-ONa$	$Co^{2+}$



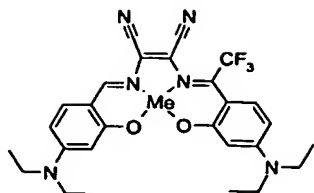
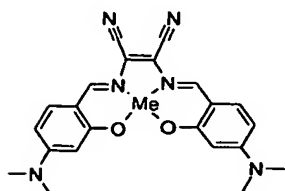
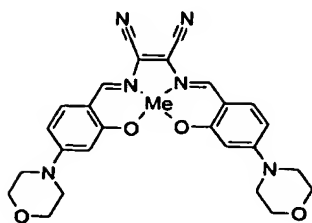
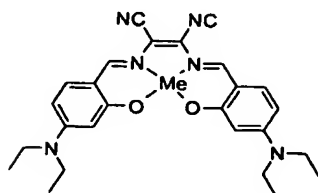
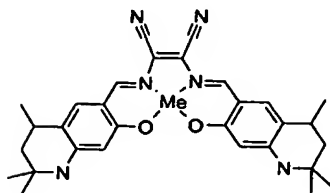
- A-10 (Me =  $Ni^{2+}$ )  
 A-11 (Me =  $Cu^{2+}$ )  
 A-12 (Me =  $Co^{2+}$ )



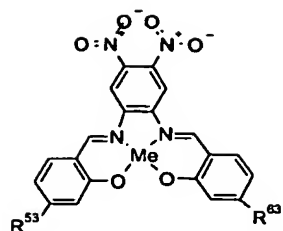
- A-13 (Me =  $Ni^{2+}$ )  
 A-14 (Me =  $Cu^{2+}$ )  
 A-15 (Me =  $Co^{2+}$ )



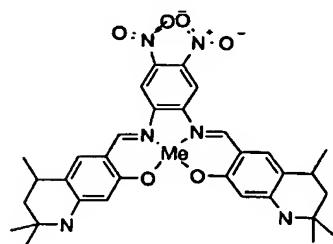
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A-16 (Me = Ni<sup>2+</sup>)A-17 (Me = Cu<sup>2+</sup>)A-18 (Me = Co<sup>2+</sup>)A-19 (Me = Ni<sup>2+</sup>)A-20 (Me = Cu<sup>2+</sup>)A-21 (Me = Co<sup>2+</sup>)A-22 (Me = Ni<sup>2+</sup>)A-23 (Me = Cu<sup>2+</sup>)A-24 (Me = Co<sup>2+</sup>)A-25 (Me = Cu<sup>2+</sup>)A-26 (Me = Co<sup>2+</sup>)A-27 (Me = Ni<sup>2+</sup>)A-28 (Me = Cu<sup>2+</sup>)A-29 (Me = Co<sup>2+</sup>)

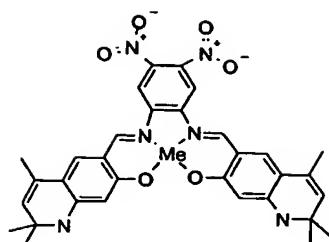
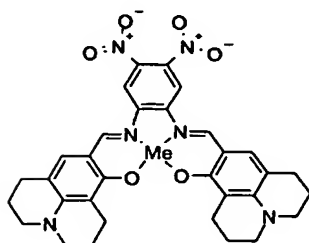
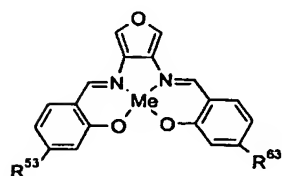
48



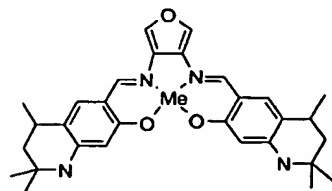
Compound	$R^{53} = R^{63}$	Me
B-1	$-N(CH_2)_2OH$	$Ni^{2+}$
B-2	$-N(CH_2)_2OH$	$Cu^{2+}$
B-3	$-N(CH_2)_2OH$	$Co^{2+}$
B-4	$-OH$	$Ni^{2+}$
B-5	$-OH$	$Cu^{2+}$
B-6	$-OH$	$Co^{2+}$
B-7	$-ONa$	$Ni^{2+}$
B-8	$-ONa$	$Cu^{2+}$
B-9	$-ONa$	$Co^{2+}$
B-10	$-ONH_4$	$Ni^{2+}$
B-11	$-ONH_4$	$Cu^{2+}$
B-12	$-ONH_4$	$Co^{2+}$

B-13 (Me =  $Ni^{2+}$ )B-14 (Me =  $Cu^{2+}$ )B-15 (Me =  $Co^{2+}$ )

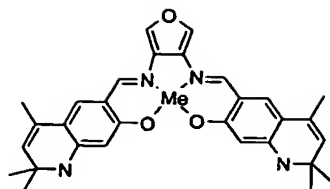
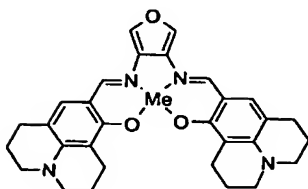
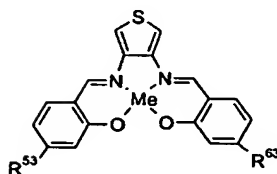
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B-16 (Me = Ni<sup>2+</sup>)B-17 (Me = Cu<sup>2+</sup>)B-18 (Me = Co<sup>2+</sup>)B-19 (Me = Ni<sup>2+</sup>)B-20 (Me = Cu<sup>2+</sup>)B-21 (Me = Co<sup>2+</sup>)

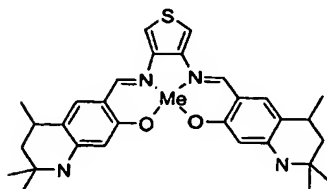
Compound	R <sup>53</sup> = R <sup>63</sup>	Me
C-1	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Ni <sup>2+</sup>
C-2	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Cu <sup>2+</sup>
C-3	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Co <sup>2+</sup>
C-4	-OH	Ni <sup>2+</sup>
C-5	-OH	Cu <sup>2+</sup>
C-6	-OH	Co <sup>2+</sup>

C-7 (Me = Ni<sup>2+</sup>)C-8 (Me = Cu<sup>2+</sup>)C-9 (Me = Co<sup>2+</sup>)

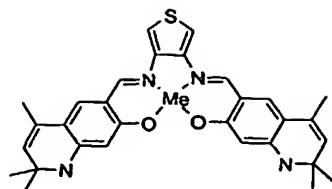
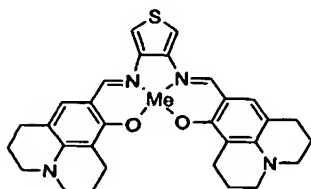
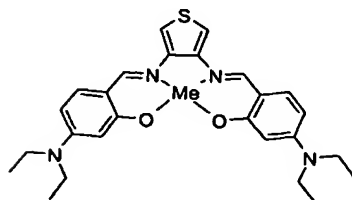
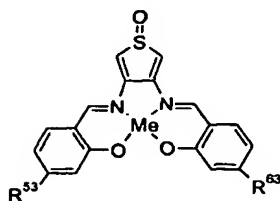
50

C-10 (Me = Ni<sup>2+</sup>)C-11 (Me = Cu<sup>2+</sup>)C-12 (Me = Co<sup>2+</sup>)C-13 (Me = Ni<sup>2+</sup>)C-14 (Me = Cu<sup>2+</sup>)C-15 (Me = Co<sup>2+</sup>)

Compound	R <sup>53</sup> = R <sup>63</sup>	Me
D-1	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Ni <sup>2+</sup>
D-2	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Cu <sup>2+</sup>
C-3	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Co <sup>2+</sup>
D-4	-OH	Ni <sup>2+</sup>
D-5	-OH	Cu <sup>2+</sup>
D-6	-OH	Co <sup>2+</sup>

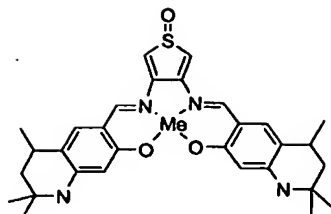
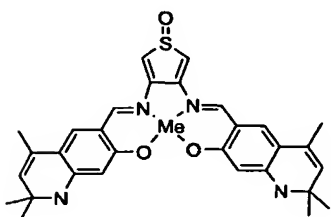
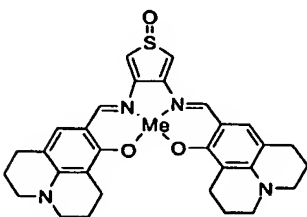
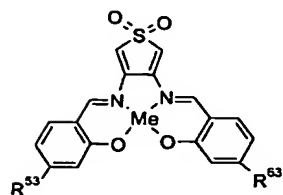
D-7 (Me = Ni<sup>2+</sup>)D-8 (Me = Cu<sup>2+</sup>)D-9 (Me = Co<sup>2+</sup>)

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D-10 (Me = Ni<sup>2+</sup>)D-11 (Me = Cu<sup>2+</sup>)D-12 (Me = Co<sup>2+</sup>)D-13 (Me = Ni<sup>2+</sup>)D-14 (Me = Cu<sup>2+</sup>)D-15 (Me = Co<sup>2+</sup>)D-16 (Me = Ni<sup>2+</sup>)D-17 (Me = Cu<sup>2+</sup>)D-18 (Me = Co<sup>2+</sup>)

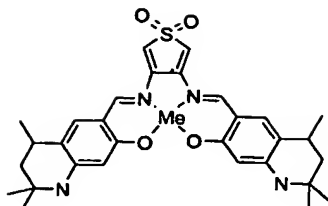
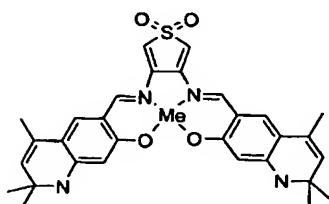
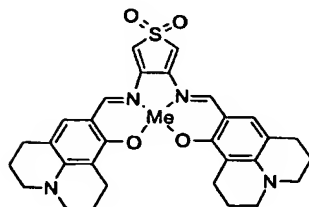
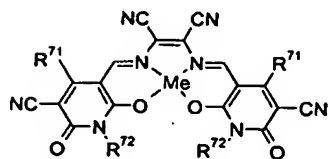
Compound	R <sup>53</sup> = R <sup>83</sup>	Me
E-1	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Ni <sup>2+</sup>
E-2	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Cu <sup>2+</sup>
E-3	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Co <sup>2+</sup>
E-4	-OH	Ni <sup>2+</sup>
E-5	-OH	Cu <sup>2+</sup>
E-6	-OH	Co <sup>2+</sup>

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E-7 (Me = Ni<sup>2+</sup>)E-8 (Me = Cu<sup>2+</sup>)E-9 (Me = Co<sup>2+</sup>)E-10 (Me = Ni<sup>2+</sup>)E-11 (Me = Cu<sup>2+</sup>)E-12 (Me = Co<sup>2+</sup>)E-13 (Me = Ni<sup>2+</sup>)E-14 (Me = Cu<sup>2+</sup>)E-15 (Me = Co<sup>2+</sup>)

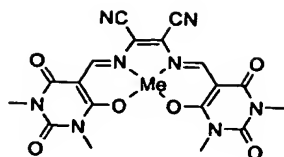
Compound	R <sup>53</sup> = R <sup>63</sup>	Me
F-1	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Ni <sup>2+</sup>
F-2	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Cu <sup>2+</sup>
F-3	-N(CH <sub>2</sub> ) <sub>2</sub> OH	Co <sup>2+</sup>
F-4	-OH	Ni <sup>2+</sup>
F-5	-OH	Cu <sup>2+</sup>
F-6	-OH	Co <sup>2+</sup>

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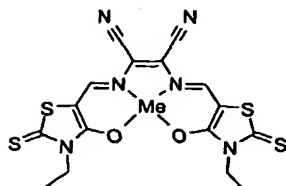
F-7 (Me = Ni<sup>2+</sup>)F-8 (Me = Cu<sup>2+</sup>)F-9 (Me = Co<sup>2+</sup>)F-10 (Me = Ni<sup>2+</sup>)F-11 (Me = Cu<sup>2+</sup>)F-12 (Me = Co<sup>2+</sup>)F-13 (Me = Ni<sup>2+</sup>)F-14 (Me = Cu<sup>2+</sup>)F-15 (Me = Co<sup>2+</sup>)

Compound	R <sup>71</sup>	R <sup>72</sup>	Me
G-1	-CH <sub>3</sub>	-CH <sub>3</sub>	Ni <sup>2+</sup>
G-2	-CH <sub>3</sub>	-CH <sub>3</sub>	Cu <sup>2+</sup>
G-3	-CH <sub>3</sub>	-CH <sub>3</sub>	Co <sup>2+</sup>
G-4	-CH <sub>3</sub>	-(CH <sub>2</sub> ) <sub>3</sub> OCH(CH <sub>3</sub> ) <sub>2</sub>	Ni <sup>2+</sup>
G-5	-CH <sub>3</sub>	-(CH <sub>2</sub> ) <sub>3</sub> OCH(CH <sub>3</sub> ) <sub>2</sub>	Cu <sup>2+</sup>
G-6	-CH <sub>3</sub>	-(CH <sub>2</sub> ) <sub>3</sub> OCH(CH <sub>3</sub> ) <sub>2</sub>	Co <sup>2+</sup>
G-7	-CH <sub>3</sub>	H	Ni <sup>2+</sup>
G-8	-CH <sub>3</sub>	H	Cu <sup>2+</sup>
G-9	-CH <sub>3</sub>	H	Co <sup>2+</sup>

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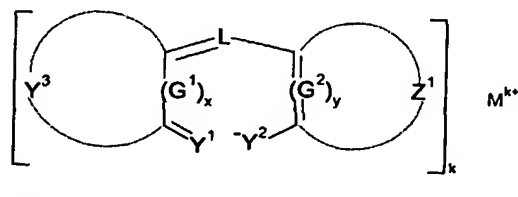
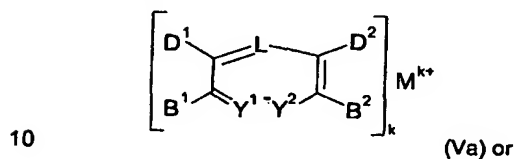


H-1 (Me = Ni<sup>2+</sup>)  
 H-2 (Me = Cu<sup>2+</sup>)  
 H-3 (Me = Co<sup>2+</sup>)



I-1 (Me = Ni<sup>2+</sup>)  
 I-2 (Me = Cu<sup>2+</sup>)  
 I-3 (Me = Co<sup>2+</sup>)

6. A composition, comprising
- 5 (a) a metal complex according to any one of claims 1 to 5, and  
 (b) a dye.
7. A composition according to claim 6, wherein  
 Me in formula I, II, III or IV is Ni<sup>2+</sup>, Cu<sup>2+</sup>, or Co<sup>2+</sup> and the dye is a oxonol dye of formula



wherein D<sup>1</sup>, D<sup>2</sup>, B<sup>1</sup> and B<sup>2</sup> are in each case a substituent; Y<sup>3</sup> and Z<sup>1</sup> are in each case a group of atoms necessary for the formation of a carbocyclic or heterocyclic ring; G<sup>1</sup> and G<sup>2</sup> are in each case a group of atoms necessary for the formation of a chain having conjugated double bonds; Y<sup>1</sup> is =O, =NR<sup>109</sup> or =C(CN)<sub>2</sub>, R<sup>109</sup> being a substituent; Y<sup>2</sup> is -O, -NR<sup>109</sup> or -C(CN)<sub>2</sub>, R<sup>109</sup> being a substituent; L is a methine group, which may be substituted, or a group by means of which a polymethine group is

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completed, it being possible for 3, 5 or 7 methine groups to be connected in order to form a chain having conjugated double bonds, which chain may be substituted, x and y are 0 or 1,  $M^{k+}$  is an organic or inorganic cation, and k is an integer from 1 to 10

- 5     8.     An optical recording medium comprising a substrate and at least one recording layer, wherein the recording layer comprises a metal complex according to any one of claims 1 to 5 or a composition according to claim 6 or 7.
- 10    9.     Use of a metal complex according to any one of claims 1 to 5 or a composition according to claim 6 or 7 in the production of optical recording media, colour filters (optical filters) and printing inks.
- 15    10.    A method of producing an optical recording medium, wherein a solution of a metal complex according to any one of claims 1 to 5 or a composition according to claim 6 or 7 in a solvent, especially a non-halogenated solvent, is applied to a substrate having depressions.